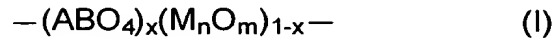


The list of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Withdrawn) A non-crystalline oxide represented by the formula (I):



wherein:

A is an element selected from Group IIIA of the periodic table;

B is an element selected from Group VB of the periodic table;

O is oxygen;

M is an element selected from either Group IIIB or Group IVB of the periodic table; and

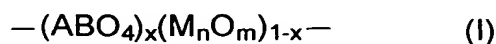
n ranges from about 0.5 to about 2.5, m ranges from about 1.5 to about 3.5, and $0 < x < 1$.

2. (Withdrawn) The oxide according to Claim 1, wherein A is aluminum (Al), B is tantalum (Ta), M is hafnium (Hf) or zirconium (Zr), n is 1, m is 2, and x is less than 0.25.

3. (Withdrawn) The oxide according to Claim 1, wherein A is aluminum (Al), B is tantalum (Ta), M is selected from yttrium (Y) or lanthanum (La), n is 2, m is 3, and x is less than 0.25.

4-10. (Canceled)

11. (Withdrawn) A field effect transistor comprising:
an integrated circuit substrate having a first surface;
source and drain regions in said substrate at said first surface in a spaced apart relationship; and
a gate insulating layer on said substrate at said first surface between said spaced apart source and drain regions, said gate insulating layer comprising a non-crystalline oxide represented by the formula (I):



wherein:

A is an element selected from Group IIIA of the periodic table;
B is an element selected from Group VB of the periodic table;
O is oxygen;
M is an element selected from either Group IIIB or Group IVB of the periodic table;
n ranges from about 0.5 to about 2.5;
m ranges from about 1.5 to about 3.5; and
 $0 < x < 1$.

12. (Withdrawn) The field effect transistor according to Claim 11, wherein the substrate comprises a material selected from the group consisting of a Group III-V binary alloy, a Group III-V quaternary alloy, a Group III-nitride alloy, and combinations thereof.

13. (Withdrawn) The field effect transistor according to Claim 11, wherein the substrate comprises a Group III-V binary alloy selected from the group consisting of (Ga,Al)As, (In,Ga)As, and combinations thereof.

14. (Withdrawn) The field effect transistor according to Claim 11, wherein A is aluminum (Al), B is tantalum (Ta), M is hafnium (Hf) or zirconium (Zr), n is 1, m is 2, and x is less than 0.25.

15. (Withdrawn) The field effect transistor according to Claim 11, wherein A is aluminum (Al), B is tantalum (Ta), M is selected from yttrium (Y) or lanthanum (La), n is 2, m is 3, and x is less than 0.25.

16. (Withdrawn) A microelectronic device comprising a non-crystalline oxide according to Claim 1.

17. (Withdrawn) The microelectronic device according to Claim 16, wherein said microelectronic device comprises a base layer and an interfacial layer positioned thereon.

18. (Withdrawn) The microelectronic device according to Claim 17, wherein the non-crystalline oxide represented by formula (I) is present in said interfacial layer.

19. (Withdrawn) The microelectronic device according to Claim 17, wherein the non-crystalline oxide represented by formula (I) is present in the base layer.

20. (Withdrawn) The microelectronic device according to Claim 17, wherein the base layer comprises an oxide of the formula (III):



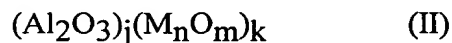
wherein D is Group IIIB or IVB oxide and z is 3 or 4.

21. (Withdrawn) The microelectronic device according to Claim 20, wherein the oxide of the formula (III) is selected from the group consisting of $\text{Hf}(\text{AlO}_2)_4$, $\text{Y}(\text{AlO}_2)_3$, and combinations thereof.

22. (Withdrawn) An article of manufacture comprising the non-crystalline oxide represented by formula (I) according to Claim 1.

23. (Withdrawn) The article of manufacture according to Claim 22, wherein the article of manufacture is selected from the group consisting of photoconductors, photodiodes, light-emitting diodes, lasers, sensors, micro-mechanical (MEMS) devices, and devices with metal electrodes, articles used in sensor applications, and articles used in catalysis applications.

24. (Currently Amended) A non-crystalline oxide represented by the formula (II):



wherein:

Al is aluminum;

O is oxygen;

M is selected from the group consisting of scandium (Sc), ~~lanthanum (La)~~, ~~actinium (Ac)~~, titanium (Ti), zirconium (Zr), and hafnium (Hf), ~~and rutherfordium (Rf)~~; and

j ranges from about 0.5 to about 4.5; k is equal to about 1; n ranges from about 0.5 to about 2.5, and m ranges from about 1.5 to about 3.5.

25. (Currently Amended) A non-crystalline oxide represented by the formula (II):



wherein:

Al is aluminum;

O is oxygen; and

~~The oxide according to Claim 24, wherein~~ M is hafnium (Hf) or zirconium (Zr), n is 1, m is 2, j is 4, and k is 1.

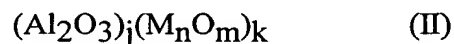
26-33. (Canceled)

34. (Currently Amended) A field effect transistor comprising:

an integrated circuit substrate having a first surface;

source and drain regions in said substrate at said first surface in a spaced apart relationship; and

a gate insulating layer on said substrate at said first surface between said spaced apart source and drain regions, said gate insulating layer comprising a non-crystalline oxide represented by the formula (II):



wherein:

Al is aluminum, O is oxygen, M is selected from the group consisting of scandium (Sc), ~~lanthanum (La), actinium (Ac),~~ titanium (Ti), zirconium (Zr)[~~],~~] and hafnium (Hf), ~~and rutherfordium (Rf),~~ j ranges from about 0.5 to about 4.5, k is equal to about 1, n ranges from about 0.5 to about 2.5, and m ranges from about 1.5 to about 3.5.

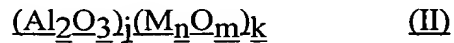
35. (Currently Amended) A field effect transistor ~~according to Claim 34,~~ comprising:

an integrated circuit substrate having a first surface;

source and drain regions in said substrate at said first surface in a

spaced apart relationship; and

a gate insulating layer on said substrate at said first surface between said spaced apart source and drain regions, said gate insulating layer comprising a non-crystalline oxide represented by the formula (II):



wherein:

Al is aluminum, O is oxygen, M is selected from the group consisting of scandium (Sc), lanthanum (La), actinium (Ac), titanium (Ti), zirconium (Zr), hafnium (Hf), and rutherfordium (Rf), j ranges from about 0.5 to about 4.5, k is equal to about 1, n ranges from about 0.5 to about 2.5, and m ranges from about 1.5 to about 3.5, wherein the substrate comprises a material selected from the group consisting of a Group III-V binary alloy, a Group III-V quaternary alloy, a Group III-nitride alloy, and combinations thereof.

36. (Currently Amended) A field effect transistor ~~according to Claim 34,~~ comprising:
an integrated circuit substrate having a first surface;
source and drain regions in said substrate at said first surface in a
spaced apart relationship; and

a gate insulating layer on said substrate at said first surface between said spaced apart source and drain regions, said gate insulating layer comprising a non-crystalline oxide represented by the formula (II):



wherein:

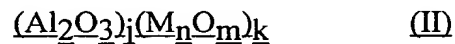
Al is aluminum, O is oxygen, M is selected from the group consisting of scandium (Sc), lanthanum (La), actinium (Ac), titanium (Ti), zirconium (Zr), hafnium (Hf), and rutherfordium (Rf), j ranges from about 0.5 to about 4.5, k is equal to about 1, n ranges from about 0.5 to about 2.5, and m ranges from about 1.5 to about 3.5, wherein the substrate comprises a Group III-V binary alloy selected from the group consisting of (Ga,Al)As, (In,Ga)As, and combinations thereof.

37. (Currently Amended) A ~~[[The]]~~ field effect transistor according to Claim 34, comprising:

an integrated circuit substrate having a first surface;

source and drain regions in said substrate at said first surface in a spaced apart relationship; and

a gate insulating layer on said substrate at said first surface between said spaced apart source and drain regions, said gate insulating layer comprising a non-crystalline oxide represented by the formula (II):



wherein:

Al is aluminum, O is oxygen, M is selected from the group consisting of scandium (Sc), lanthanum (La), actinium (Ac), titanium (Ti), zirconium (Zr), hafnium (Hf), and rutherfordium (Rf), j ranges from about 0.5 to about 4.5, k is equal to about 1, n ranges from about 0.5 to about 2.5, and m ranges from about 1.5 to about 3.5, wherein M is hafnium (Hf) or zirconium (Zr), n is 1, m is 2, j is 4, and k is 1.

38. (Canceled)

39. (original) A microelectronic device comprising a non-crystalline oxide according to Claim 24.

40. (original) The microelectronic device according to Claim 39, wherein said microelectronic device comprises a base layer and an interfacial layer positioned thereon.

41. (original) The microelectronic device according to Claim 39, wherein the non-crystalline oxide represented by formula (II) is present in said interfacial layer.

42. (original) The microelectronic device according to Claim 39, wherein the non-crystalline oxide represented by formula (II) is present in the base layer.

43. (original) The microelectronic device according to Claim 39, wherein the base layer comprises an oxide of the formula (III):



wherein D is Group IIIB or IVB oxide and z is 3 or 4.

44. (original) The microelectronic device according to Claim 43, wherein the oxide of the formula (III) is selected from the group consisting of $\text{Hf}(\text{AlO}_2)_4$, $\text{Y}(\text{AlO}_2)_3$, and combinations thereof.

45. (original) An article of manufacture comprising the non-crystalline oxide represented by formula (II) according to Claim 24.

46. (original) The article of manufacture according to Claim 45, wherein the article of manufacture is selected from the group consisting of photoconductors, photodiodes, light-emitting diodes, lasers, sensors, micro-mechanical (MEMS) devices, and devices with metal electrodes, articles used in sensor applications, and articles used in catalysis applications.

47-48. (Canceled)

49. (New) The field effect transistor according to Claim 34, wherein the substrate comprises a material selected from the group consisting of a Group III-V binary alloy, a Group III-V quaternary alloy, a Group III-nitride alloy, and combinations thereof.

50. (New) The field effect transistor according to Claim 34, wherein the substrate comprises a Group III-V binary alloy selected from the group consisting of $(\text{Ga}, \text{Al})\text{As}$, $(\text{In}, \text{Ga})\text{As}$, and combinations thereof.

51. (New) The field effect transistor according to Claim 34, wherein M is hafnium (Hf) or zirconium (Zr), n is 1, m is 2, j is 4, and k is 1.